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# BREATHING EXERCISE

1. Muscles of Inspiration - diaphragm (primary m/s of inhale).

- scalene (elevates 1<sup>st</sup> two ribs).
- Sternocleidomastoid (elevates sternum).
- serratus anterior (supporting m/s).
- External intercostal (moves upward & outward).

2. Muscles of Expiration.

- 1. External oblique.
- 2. Recto abdominal.
- 3. Internal oblique.
- 4. Transverse abdominal.

\* Goals of breathing exercise :-

- 1. Improve ventilation.
- 2. Increase the effectiveness of cough & promote airway clearance.
- 3. To prevent post operative pulmonary complications.
- 4. To improve the strength endurance coordination of the muscle of ventilation.
- 5. maintain & improve chest & thoracic spine mobility.
- 6. promote relaxation & relieve stress.



7. To teach the pt how to deal with episodes of dyspnea.
8. assisting in removal of secretions
9. correct abnormal breathing patterns & use the work of breathing.
10. Aid in bronchial hygiene - prevent accumulation of pulmonary secretions, mobilization of these secretions, & improve the cough mechanism.

2/9/21

**NOTE :-**

**Breathing pattern :-** The rate of respiratory & location of respiration are noted at rest & with activity.

→ The normal ratio of rest inspiration or respiration at rest - 1:2  
& activity → 1:1

\* Type of breathing -

i) **abdomino thoracic breathing** - normally the breathing type in males is abdomino thoracic. In this type of breathing both the abdominal & ~~thorax~~<sup>thoracic</sup> movement occur.

→ But the abdominal movement are more prominent  
In 'females' the type of breathing is **thoraco abdominal** here the thoracic movement are more prominent than the abdominal pattern.

(1) adult :- **thoracic** movement.

**NOTE :-** 1) paralysis of diaphragm  
2) or severe asitis (परासिक नै जानी)



only seen abdominal movement - purr - pleurisy & lung collapse.

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Sputum Examination - (mucus membrane)

In normal adult up to 100ml of tracheobronchial secretion is produced daily which are clear & transparent.

The air's secretion of tracheobronchial system is called sputum. It may clear or may contain mucus cellular debris, micro organism, blood or foreign particles.

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MILLAR GRADING SYSTEM (sputum in air)

	Grade	type
1.	M <sub>1</sub>	mucoid with no suspension of pus.
2.	M <sub>2</sub>	mucoid with suspension of pus. (decreased WBC, foreign particles).
3.	P <sub>1</sub>	1/3 <sup>rd</sup> purulent or 2/3 mucoid.
4.	P <sub>2</sub>	2/3 <sup>rd</sup> mucoid & 1/3 <sup>rd</sup> purulent.
5.	P <sub>3</sub>	more than 2/3 purulent.

→ Examination of sputum is necessary & helpful to clarify the diagnosis & severity of disease.

→ Examination of sputum is done under the following heads → colour (clear, consistency, content, & odour (if any)).